

TMA-43

is shown here in one of several configurations.

TMA-51 and

TMA-55 can also be accommodated.

Both, however, have improved options and new requirements that are leading to the NEXT conceptual design.

Optical Bench Assy

Main Baffle Tube
Secondary Baffle
Inner Baffle
Space Frame
Light Shields

Heat Shield Assy

Solar Panels
Sun Shield (not shown)
MLI Blanket (not shown)
Sun Position sensors (not shown)

Bus Assy

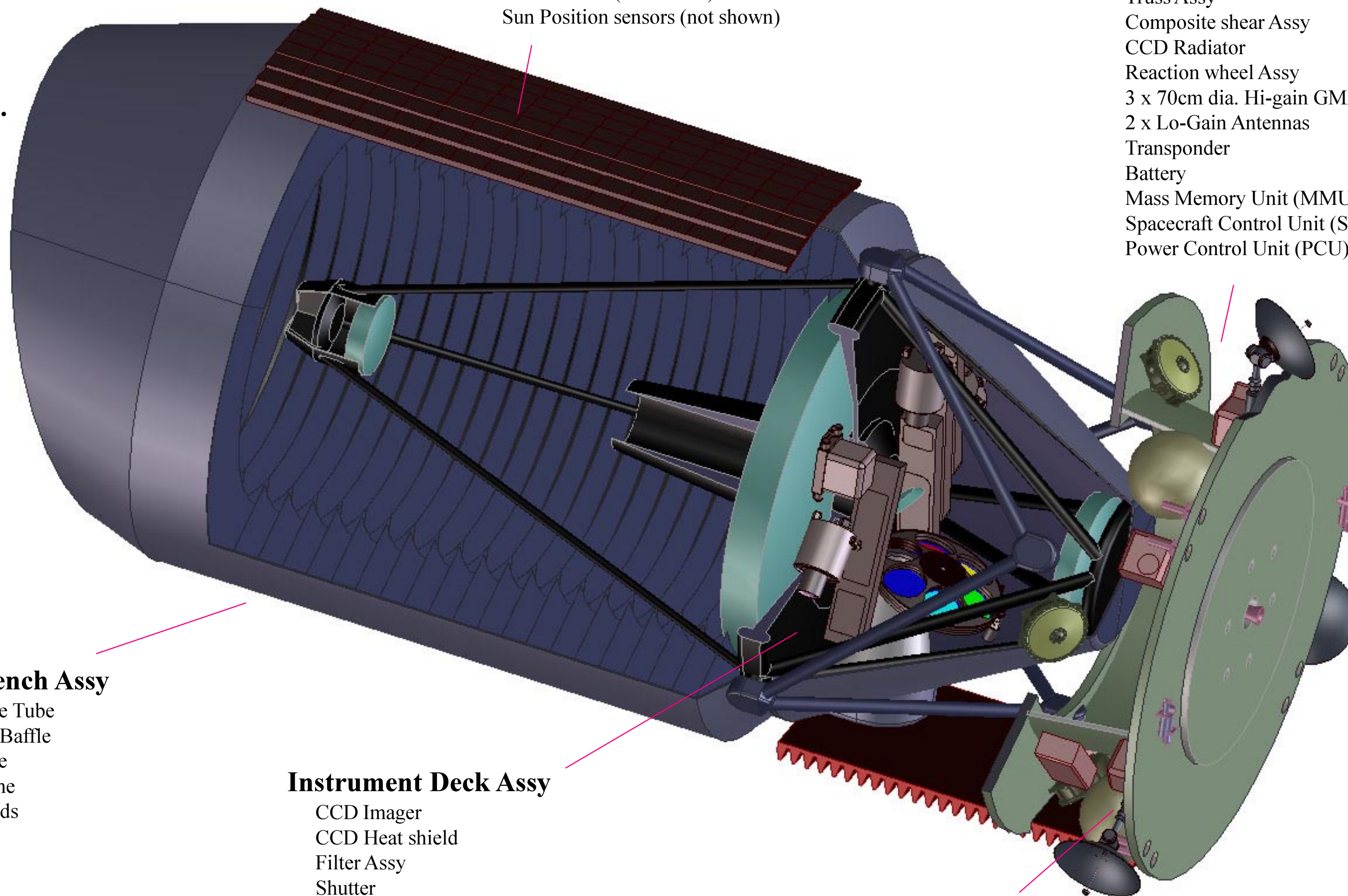
Truss Assy
Composite shear Assy
CCD Radiator
Reaction wheel Assy
3 x 70cm dia. Hi-gain GMAs
2 x Lo-Gain Antennas
Transponder
Battery
Mass Memory Unit (MMU)
Spacecraft Control Unit (SCU)
Power Control Unit (PCU)

Instrument Deck Assy

CCD Imager
CCD Heat shield
Filter Assy
Shutter
Star tracker cameras
SNAP Star Guide camera
Gyro Assy
IR Spectro
Optical Spectro

Propulsion Deck Assy

12 x .5 lbf engines
1 x 5.0 lbf engine
3 x 47 cm dia. tanks
Controls





Launch Vehicles

Candidates have been arranged approximately in descending order with respect to:
Cost,
Launch capacity, and
Fairing volume

Optical Packages

The candidates below have been worked up in enough detail to suggest plausible Payload

Trade Space Overview

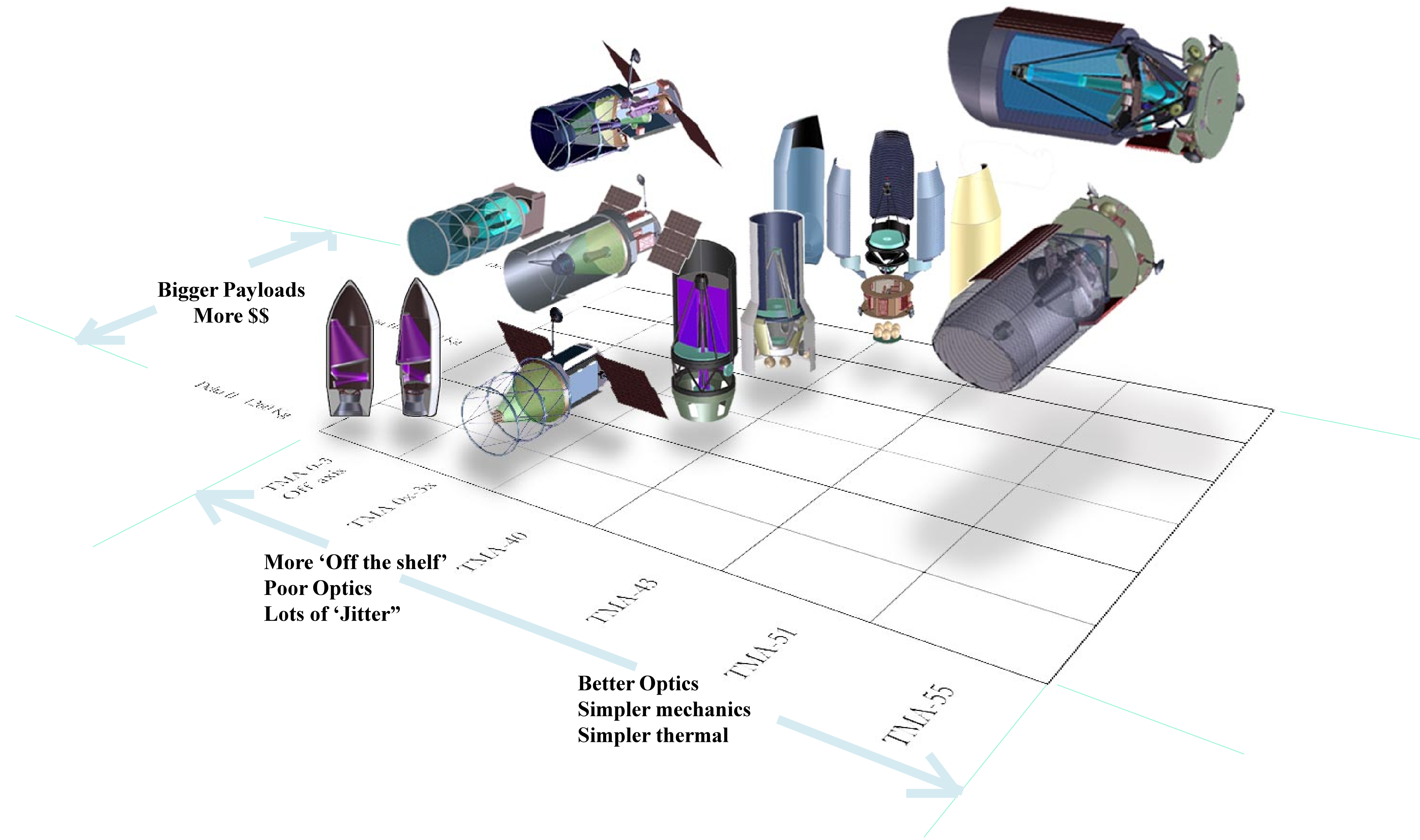
Launch vehicle vs Optical package

			TMA-0x Off-Axis	TMA3x- Off Axis	TMA-0x	TMA-3x	TMA-40	TMA-43	TMA-51	TMA-55
Space Transportation System	24,000 Kg	\$ 500 M								
Titan IVB/Centaur/SRMU	8600 Kg	\$ 250 M								
Ariane 5	6800 Kg	\$ 120 M								
EELV-Heavy	6120 Kg									
H2-A	6000 Kg									
Proton	4800 Kg	\$ 50-70 M								
H2	4000 Kg	\$ 150 M								
Sea Launch I/Zenit 3	3300 Kg	\$ 50-70 M								
Delta IV	2800 Kg									
Atlas II ARS	3100 Kg									
Delta III (2 Stage)	2700 Kg									
Atlas II AR	2970 Kg	\$ 95 M								
Delta III (3 Stage)	2,799 Kg									
EELV-Small	1840 Kg									
Delta II 7925	1260 Kg	\$ 45 M								

We are HERE

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- Anything is possible
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- Will certainly work, and we can expand the mission
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- Works, and we have data points to show how
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- Will probably work but we haven't tried it.
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- Might Work but will take a Heroic effort
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- Won't work

Trade Space Overview





Instrument Deck
TMA-43 Beam Envelope
Mk3 Optical Bench
(Main Baffles and shrouds not shown)

